

### Abstract

A method and apparatus for system offset calibration using an overranging ADC is provided. The overranging ADC is configured to convert an analog signal into an intermediary digital signal. The conversion range of the overranging ADC is extended  
5 beyond the full dynamic range of the ADC system. The intermediary digital signal has more bits than the digital output signal. A digital fine offset adjustment circuit is configured to provide the digital output signal by digitally subtracting a fine offset from the intermediary digital signal and decoding the intermediary digital signal. The digital  
10 output signal has approximately no offset, and has approximately no loss in dynamic range.

